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ABSTRACT

This special study of higher education in the Boston metropolitan area was one of several efforts to evaluate the present total system of higher education in the state. These studies will be the bases for the formulation of a comprehensive state plan for public higher education. The purpose of this study was (1) to develop reasonable estimates of the number of potential students from the metropolitan area for institutions of higher education; (2) to develop a reasonable estimate of the ability of the Boston area institutions, private and public, to provide sufficient opportunities in higher education for students from the area; and (3) to suggest alternative courses of action which would allow for the creation of a system of higher education capable of meeting the needs of the area's citizens. A concise summary of the study's findings and recommendations is presented in 6 pages. (AF)

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HIGHER EDUCATION IN THE BOSTON METROPOLITAN AREA

A report of the
Board of Higher Education
of the Commonwealth of Massachusetts

October 1968

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Population projections for the Boston Metropolitan Area were provided by the Metropolitan Area Planning Council.

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Summary of Findings and Major Recommendations

A little over a year ago the Board of Higher Education, in connection with its planning functions, authorized a special study of higher education in the Greater Boston Metropolitan Area.

The Greater Boston Metropolitan Area for the purposes of the study was made of the 78 cities and towns comprising within U.S. Census Standard Metropolitan Statistics Area (SMSA).

Concentrated in the Boston Metropolitan Area are 57 institutions of higher education with a 1966 student enrollment of 141,000. The region contains more than one half of all the institutions of higher education in the Commonwealth of Massachusetts. Its 141,000 students represent more than 65 percent of the total enrollment at all institutions of higher education within the state.

In 1964, the region's institutions awarded approximately 19,300 degrees, or almost 70 percent of all degrees awarded by all Massachusetts' institutions. Institutions within the area awarded 75 percent of all Master's Degrees conferred by Massachusetts' institutions of higher education and virtually all First Professional and Doctor's Degrees.

Forty-eight of the 57 institutions of higher education within the Metropolitan Region are private; only nine — seven state and two municipal — are publicly controlled.

The region's private sector of higher education is a billion dollar enterprise. In 1965, the total value of real and personal property held by the region's private institutions of higher education totaled over 1.5 billion dollars. The reported expenditures of the area's private institutions totaled more than 400 million dollars for 1965.

Eighty-eight percent of the 141,000 students attending institutions of higher education located within the Boston Area were attending private institutions, only 12 percent were attending public institutions.

Private institutions awarded almost 90 percent of the estimated 26,200 degrees conferred by all institutions located within the area in 1966. There is a vast difference, moreover, between the academic programs available at private institutions and those available at public four year institutions.

The presence of such a large, well known system of private higher education presents the Commonwealth with the unique opportunity to develop a complimentary public/private system of higher education. At the same time, it poses the danger that the formulation of a long term public policy for higher education, which fails to understand the plans and programs of private institutions, may be neither adequate nor effective. For obvious reasons then, the inquiry is directed not merely at the public sector of higher education, but is

equally concerned with the future development of the region's private institutions of higher education.

Herein you will find a summary of findings and recommendations as well as a map outlining the boundaries of the Metropolitan Area Study.

FINDINGS

1. Although the Boston Area's total population will not grow rapidly, the student age group will grow significantly over the next ten to fifteen years.
2. The level of educational attainment characteristic of the area and the apparent trend toward higher levels of enrollment at institutions of higher education indicates that as more institutions and programs are provided, a greater and greater proportion of area 18 — 21 year olds, for that matter, of all segments of the population, will take advantage of the opportunities for higher education.
3. It appears that today over 60 percent of students graduating from public school systems plan to continue their education after their graduation. Over the past decade or so, the relative number of high school graduates going on to post secondary school institutions from succeeding graduating classes has grown by approximately 1.5 percent a year.
4. A growing proportion of area high school graduates who continue their education are enrolling at public institutions of higher education.
5. The costs and the location of public institutions and policy changes in present institutions are apparently the principal factors contributing to the increased interest in public higher education among area high school graduates.
6. Statements of area guidance counselors indicate that the present identification of the State Colleges as "Teacher Institutions" and Community Colleges as "Transfer Institutions" by high school graduates may limit their appeal. It would appear that the resolution of these central issues are dependent upon these factors: (1) further expansion of the academic programs available at each type of institution and perhaps, more critical, (2) development of better public understanding of the characteristics and goals of each type of institution. The community colleges have been developed as comprehensive institutions with equal or greater emphasis upon two year occupation programs than on transfer programs. At the same time, in their approximation to an open door policy, they do make opportunity available to students who would not usually be admissible as freshmen to four year institutions. The state colleges are evolving into four year arts and sciences institutions. But it is clear that as yet these developments are not fully understood or recognized by the

rest of the academic community or the public at large. Therefore, some of these reservations on the part of students will in probability disappear in the future.

7. The need to understand the educational needs of Area students is not restricted merely to certain segments of public higher education. It is obvious from available evidence that certain societal factors operate to limit the educational opportunities available to large numbers of Area graduates. Any successful attempt to remove these limitations must involve the full participation of all levels of education, be it public or private, as well as the cooperation and participation of all branches of government and private industry.

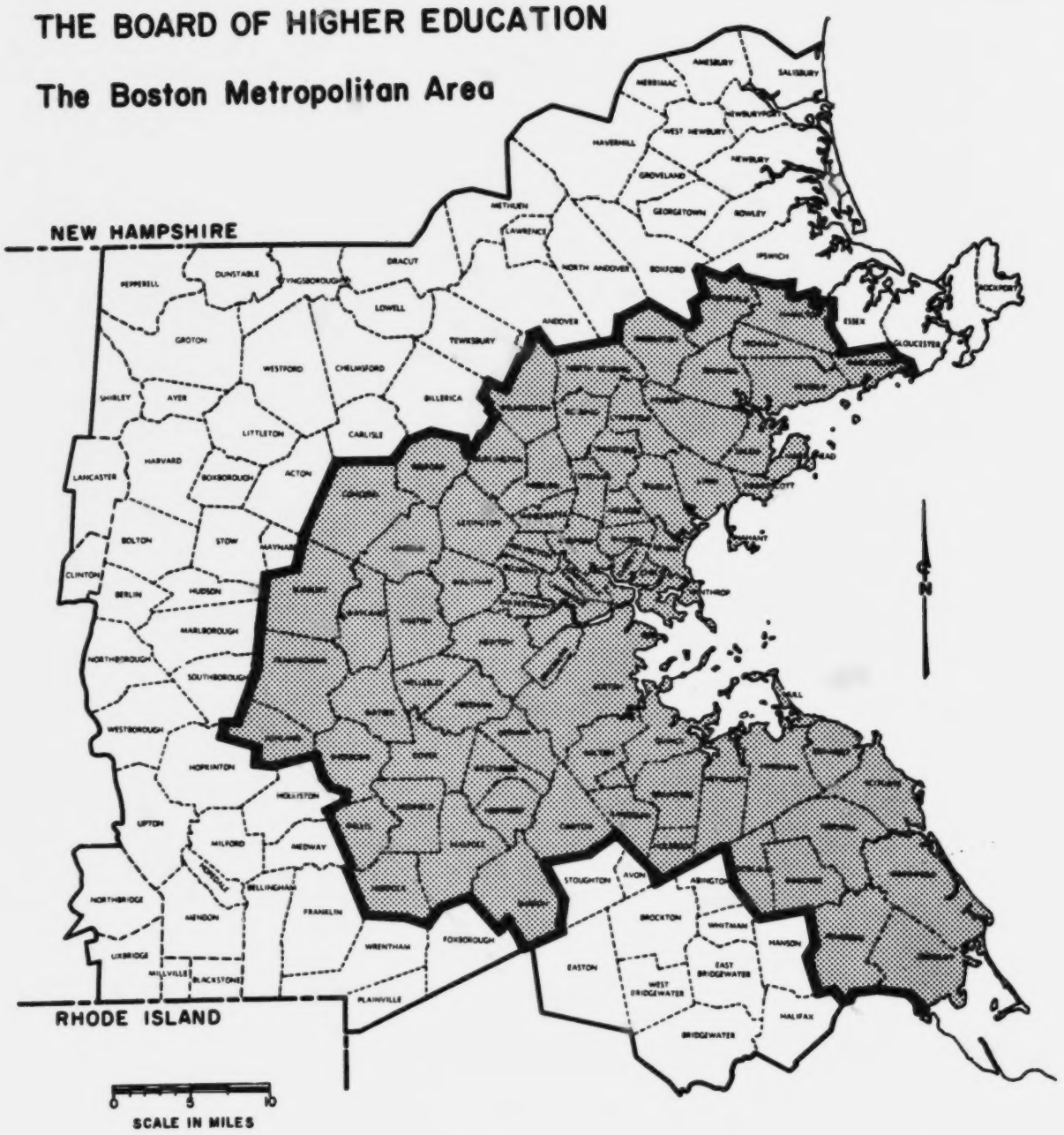
8. Available information indicates that while the rate of growth in enrollments of existing area public institutions will be appreciably higher than that for area private institutions, higher education within the area will continue to be largely private, with an estimated 156,400 students enrolled at private institutions in 1977.

9. There are significant differences in the composition of the student bodies of area private and public institutions of higher education. Undergraduate student bodies at area private institutions are national in character and made up of students from relatively high income families.

10. For various reasons including institutional policy and the rising costs of higher education, it appears that area private institution will, under present conditions, become more national in character, with the result that there will be a gradual reduction in the relative numbers of Massachusetts and Area students in the undergraduate student bodies of private institutions during the decade.

11. The costs to the student of attending area private institutions may be appreciably higher. Most private institutions within the region expect to be faced with financial difficulties during the foreseeable future.

12. Public policy and funding will be the principal determinants of the educational opportunities available to the vast majority of the area's college age population. Current estimates indicate an increase in the college going population of the SMSA area of approximately 60,000 students by 1980 with only about 1,500 accounted for in current projections of private institutions leaving a balance of around 56,000 additional students to be accommodated either at public institutions or through revised planning by a combination of public and private institutions in the period ahead. If these students are to be accommodated in the public institutions the capital costs to the Commonwealth in current dollars would approximate a minimum of 600 to 800 million dollars.



NOTE: Study Area is the Boston Metropolitan Statistical Area as defined by the U.S. Bureau of Census (1964).

CONCLUSION

The major conclusion of this inquiry into the need for higher education in the Boston Metropolitan Area is that, in future years, the ability of the vast majority of area students to obtain opportunities in higher education will be far more dependent on public policy than it was in the past. The future pervasiveness of public policy in determining the type, level, and quality of higher educational opportunities available to future students requires that such policy be based on clear and complete understanding of the plans, aspirations, and capabilities of the students and institutions both public and private.

RECOMMENDATIONS

The recommendations which follow address themselves to development of the means for effective continuous planning in the metropolitan area to meet both the quantitative and qualitative needs of the students in the area as effectively as possible and to do so with emphasis upon complementation of efforts to accomplish the urgent tasks ahead. To meet these needs will require not only major expansion of public institutions of higher education but continued strong higher educational private institutions capable of meeting and perhaps revising their present projections for the future. We are past the point at which we can afford anything less than the fullest cooperation among all higher educational institutions if the social and educational needs of the total community are to be met. While the body of the report develops the scope of the quantitative problem facing public higher education it does so on the assumption that there will be no serious impairment of effort in the private sector. To insure that such impairment does not happen the recommendations are addressed to the problems of the private institutions as well as public institutions and stress the need for strengthening and continuing common planning in all sectors in the period ahead.

1. The development of a sophisticated system for statewide and regional enrollment predictions would appear to be a necessary first step in establishing a comprehensive plan for public higher education.
2. Since the problem facing the public institutions is not only one of numbers but also of adequate program development and diversification to meet the real and felt needs of students in the period ahead, it is recommended that the Board of Higher Education take immediate steps to set up an intersegmental (University, State Colleges, Community Colleges) council of executive officers and their representatives of the public higher educational institutions in the Boston Area to improve lines of communication among institutions and with the Board of Higher Education and to encourage common planning on the institutional level for adequate diversification and complementation.
3. It is further recommended that the Board of Higher Education invite representative private institutions in the Boston area through the As-

sociation of Independent Colleges and Universities to form a similar planning council for the Boston Metropolitan Area to meet periodically with the council of public institutions for purposes of communication and planning to serve as a continuing advisory committee to the Board of Higher Education in relation to its coordinating activities.

4. It is strongly recommended that the Board of Higher Education immediately ascertain the current status of facilities planning at the public institutions and segments in the Boston Metropolitan Area including the relation of such facilities planning to programmatic planning, that the Board also, to the extent feasible, determine the facilities projections of private institutions within the area, and that in cooperation with the segments, the Board of Higher Education develop an appropriately phased facilities Master Plan for all public institutions in the area aimed at helping to meet the essential needs for the period ahead as expeditiously as possible.
5. It is strongly recommended that the Board of Higher Education in conjunction with the Association of Independent Colleges and Universities immediately undertake a study of the financial problems of private institutions. It is further suggested that the Governor appoint a select committee with representation from both organizations and other interested parties to guide the study.
6. The Board of Higher Education should, insofar as practical, initiate and encourage the development of a system of inter-institutional cooperation, between and among individual and groups of public and private institutions.
7. There is an immediate need for a cooperative effort on the part of all levels of education involving the full participation of all branches of government and private industry, for the removal of all unreasonable impediments — financial, cultural, geographic, and other — which may limit the ability of students to achieve their educational goals.

INTRODUCTION

One of the most important objectives of the Board of Higher Education, stemming from its general responsibilities, is the formulation of a comprehensive and sound long term public policy for higher education in the Commonwealth. Such a policy should result in the creation of an integrated and coordinated system of public education totally responsive to the needs and aspirations of its citizens.

In establishing the Board of Higher Education, the legislature vested in the Board the responsibility for :

- — the coordination of services common to all segments of public higher education
- — the approval of new degree programs at the several public institutions
- — the review of budgets and capital outlay plans of the individual institutions and of higher education as a whole
- — the approval of all plans for expansion of the individual institutions
- — the provision of any necessary post high school vocational and adult education services and programs

In addition, the legislature specifically directed that the Board of Higher Education "support, facilitate, and delineate clear functions and programs for segments of public higher education...and to plan and develop efficient and effective coordination among them."

Therefore, the principal objective of the Board of Higher Education must be the formulation of a comprehensive and sound long term public policy for higher education in the Commonwealth — a policy which will result in the creation of an integrated and coordinated system of public education totally responsive to the needs and aspirations of its citizens. In so doing, it can ensure that the public investment in higher education serves to sustain, enrich, and promote the economic, social, and cultural vitality of the Commonwealth and all its citizens.

The comprehensive plan must seek to establish an integrated system in order to eliminate any existing inefficiencies and unnecessary duplications of effort. Today, more than in any other time in our history, greater demands for expanded and improved social services are being made on all segments of the public sector. Public education competes for the limited resources available to our society at any point in time. Decision-makers in education must see to it that full services are provided at the least possible real resource cost. To do otherwise is to distort the allocation of resources, fail to maximize the return on the investment in education, and make all of us poorer in a very real sense.

The needs and aspirations of the citizen of the Commonwealth with respect to higher education are obviously diverse. Because of the varying interests and capabilities of students and the increasingly more complex educational requirements of society, a wide range of programs of sufficient scope and quality at all levels of higher education must be made available.

However, it should be noted that availability can take on many dimensions. Higher education policy makers must consider the effects of geographic and financial constraints on the ability of potential students to become actual enrollees and eventual graduates. These same decision makers must see to it that no crucial barriers exist to frustrate the expectations and aspirations of any minority group in the Commonwealth.

The ability of any system of higher education to accomplish its objectives depends to a large degree on its ability to develop effective means of coordination and cooperation, not only with institutions of higher education, but also with elementary and secondary schools, labor, industry, and a wide range of civic and cultural organizations. All of these parties must be intimately involved in any attempt to create a system of higher education which will meet the needs and aspirations of the citizens of the Commonwealth.

This present inquiry into higher education in the Boston Metropolitan Area is one of several studies undertaken by the Board of Higher Education in its efforts thoroughly to evaluate the present total system of higher education in the Commonwealth. Out of these studies and evaluations will emerge a comprehensive state plan for public higher education.

The specific purposes of this initial inquiry into higher education in the Boston Area are much more limited. Its aim was: (1) to develop for future years reasonable estimates of the number of potential students from the Metropolitan Area for institutions of higher education, (2) to develop a reasonable estimate of the ability of Boston Metropolitan Area institutions, private as well as public, to provide sufficient opportunities in higher education for students from the Boston Area, (3) to suggest alternative courses of action which would allow for the creation of a better system of higher education capable of meeting the needs of all the citizens of the area seriously interested in pursuing their educational goals. Thus, its intent is to outline in a general way the future needs for higher education within the region, and to indicate the principal areas of concern. Hopefully, the inquiry will contribute to the future planning efforts of all institutions and to a coordinate and cooperative effort to provide the higher educational programs necessary to serve the educational needs and aspirations of all segments of the area's population. The composite picture of the Region's system of higher education, which does emerge as a result of this inquiry, is one of broad strokes and should be viewed as one which reflects the future as an extension of the present rather than as a future which is a result of significant change.

The inquiry into the present and potential size of the Region's system of higher education rests heavily on information obtained from a wide variety of existing sources. Each institution was asked to supply current information on its enrollments and on the socio/economic characteristics of its present student body. In addition, each institution was asked to "look to the future" and to estimate their future enrollments, programs, and student charges. As the United States Office of Education, through its Higher Education General Information Survey, anually attempts to collect virtually all of this information, each insti-

tution was asked to furnish the Board of Higher Education with duplicate copies of forms already submitted to the Office of Education.

Population studies done by other agencies for the Commonwealth and for the Boston Metropolitan Region and specific studies of Massachusetts high school graduates have been utilized in an attempt to estimate the number of college age youths, the number enrolled in institutions of higher education, and the distribution of this enrollment at both public and private institutions.

A Technical Advisory Committee was formed by the Board to assist in this undertaking. The committee is comprised of leading educators, business, and labor leaders from the Boston Metropolitan Area. The report in both its preliminary and final form was presented to the Committee for its evaluations and reactions.

It must be understood from the outset that the purpose of this inquiry was not the development of a Master Plan for Higher Education in the Boston Metropolitan Region.

It also must be clearly understood that individual institutions participated in this inquiry on a voluntary basis. Many institutions, for various reasons, mostly because of an admitted lack of staff, did not participate in the survey and several other institutions were unable to supply all the information requested.

Table I in the appendix indicates the extent of participation by each institution within the region.

This inquiry does not pretend to offer solutions to the problems of higher education within the Boston Metropolitan Area; at best, it should illustrate the most significant issues and perhaps indicate areas of concern in higher education which should be subject to future analysis and evaluation. The real contribution of an inquiry of this type is not the solutions it might suggest but rather the questions it raises.

The study uses three main bodies of information: the Region's present and projected population derived from studies made available by the Metropolitan Area Planning Council, the institutional characteristics derived from information supplied by the individual institutions, and the college-going intentions of high school students derived from several studies of Massachusetts and Area graduates. The analysis of this information has lead to the following findings and conclusions.

Chapter I

Factors leading to Increased Enrollment

THE REGION'S POPULATION[1]

Although the Boston Area's total population will not grow rapidly, the student age group will grow significantly over the next ten to fifteen years.

The population of the 78 community Boston Metropolitan Area reached 2,665,200 in 1965, an increase of approximately 75,000 or 2.9 percent over the 1960 population of 2,590,040.

The region's population is projected to increase by 7 percent over the decade 1965-1975 and reach 2,852,485 in the latter year.

More significant is the fact that the region's projected population will tend to be young. The growth in 24 and under segments of the area's population will account for virtually all of the projected increase in the area's total population between 1965 and 1975. Over the decade, the population 24 and under will increase an estimated 13.4 percent while the population 25 and over will grow slightly less than 1.5 percent. (Table 2)

The proportion of the Boston Metropolitan Area's population under 30 years of age is expected to reach 54 percent by 1975, up from 49.7 percent in 1965 and only 47.4 percent in 1960. The increase in population under 30 is significant, as 95 percent of student enrollments at institutions of higher education throughout the country are in this age group.[2]

Of particular interest is the 18 - 21 year old age group which generally provides about two-thirds of the college enrollments.[3] In the Metropolitan Area, the 18 - 21 year olds are projected to increase from 135,960 in 1960 to 197,900 in 1975 and approximately 209,000 by 1980.

The level of educational attainment characteristic of the area and the apparent trend toward higher levels of enrollment at institutions of higher education indicates that as more institutions and programs are provided, a greater and greater proportion of area 18 - 21 year olds, for that matter, of all segments of the population, will take advantage of the opportunities for higher education.

The level of educational attainment of adult males within the Boston Metropolitan Area is significantly above the level of educational attainment of adult males in the state as a whole. In 1960, almost 80 percent of the area's

1. Estimates of the Boston SMSA's future population are derived from projections developed by the Metropolitan Area Planning Council: See "Population Projection for the Eastern Massachusetts Region," *Economic Base Study*, Vol. III.
2. Allan Carter and Robert Farrell, "Higher Education in the Last Third of the Century", *Education Record*, Spring, 1965.
3. *Ibid.*

TABLE 2

POPULATION 1960 - 1975
BOSTON SMSA

Age Groups	*1960*	*1965*	*1970*	*1975*	*Change 1965-75*
I. Pre-School	313,398	329,870	339,361	359,189	+ 8.88
II. School Age (6-17)	520,017	575,972	601,608	637,415	+10.66
III. Higher Educ.					
(18-21 A)	135,960	161,000	174,161	197,906	+22.92
(18-24 B)	228,089	266,732	295,039	332,675	+24.72
IV. Work-Force					
(20-59 A)	1,281,590	1,265,052	1,243,049	1,327,902	+ 4.96
(25-59 B)	1,129,163	1,078,637	1,036,380	1,094,871	+ 1.48
V. Retired (60+)	399,373	414,550	409,063	429,335	+ 3.56
Total	2,590,040	2,665,761	2,681,451	2,852,485	+ 7.00

Source: 1960 Bureau of the Census, U.S. Department of Commerce, Metropolitan Area Planning Council, Population Projections Series C.

TABLE 3

EDUCATIONAL ATTAINMENT
AMONG MALES 25-64 YEARS OF AGE
MASSACHUSETTS AND BOSTON SMSA
PERCENT DISTRIBUTION
1950 AND 1960

Last Year of School Completed	*Massachusetts*		*Boston SMSA*	
	1950	*1960*	*1950*	*1960*
High School				
1-3	20.4	20.9	21.0	21.1
4	24.6	24.4	29.7	29.1
Sub-Total	45.0	45.3	50.7	50.2
College				
1-3	9.2	8.9	8.9	10.9
4+	9.2	11.8	12.6	17.0
Sub-Total	18.4	20.7	21.5	27.9
Total	63.4	66.0	72.2	78.1

Source: Calculated from United States Census of Population 1950, 1960.

TABLE 4

SCHOOL ENROLLMENT
SELECT AGE GROUPS
BOSTON SMSA
1950 and 1960

Age	*1950 No. Enrolled*	*1960 No. Enrolled*	*1950 % Enrolled*	*1960 % Enrolled*
5 to 6	34,960	74,348	47.2	73.8
7 to 13	216,245	311,058	96.1	97.3
14 to 15	55,860	68,910	95.7	95.2
16 to 17	49,310	64,207	82.2	82.2
18 to 19	29,680	37,529	43.0	52.9
20 to 21	20.602	21,393	27.7	33.3
22 to 24	20,088	17,136	18.1	18.6

Source: Bureau of the Census, United States Department of Commerce.

adult male population 25 - 64 years old had completed at least one or more years of high school; approximately 28 percent had completed at least one year of college. Comparable figures for the Commonwealth as a whole indicate that only two-thirds of the adult males 25 - 64 years of age had completed at least one year of high school and slightly less than 21 percent had completed one or more years of college. It has been observed that there is a strong correlation between the level of education of the parents and the aspiration for higher education of their children.

Clearly, the trend is toward higher levels of educational attainment. Between 1950 and 1960, the relative number of Boston Area males 25 - 64 years of age who had completed one or more years of college increased from 21.5 percent to 27.9 percent.

More specifically, between 1950 and 1960, the relative number of Boston Area 18/21 year olds enrolled in institutions of higher education rose from 35.3 percent to almost 44 percent, a rate of increase of approximately 25 percent for the decade.

Chapter II

Surveys of Region's High School Graduates[1]

A major concern of any inquiry whose purpose is to indicate the potential demand for programs in higher education must be the plans of high school graduates, for the major portion of enrollments in institutions of higher education is made up of students who enter immediately following their high school graduation or within a short time thereafter.

It appears that today over 60 percent of students graduating from public school systems plan to continue their education after their graduation. Over the past decade or so, the relative number of high school graduates going on to post secondary school institutions from succeeding graduating classes has grown by approximately 1.5 percent a year. Current information indicates that this trend will continue or accelerate.

Between 1952 and 1962, the number of graduates from Massachusetts public high schools attending post high school institutions nearly doubled, going from approximately 11,600 to 22,700 students. This growth has come about as a result of both an increase in the number of students graduating and an increase in the rate of college going among high school graduates. The percentage of high school graduates continuing their education rose from 38.4 percent in 1952 to 52.5 percent in 1962. (Table 5)

Data collected on Massachusetts 12th grade students by the University of California Center for Research and Development in Higher Education for its study of student decision making[2] indicates that, in 1966, approximately 63 percent of the 12th grade students included in the sample planned to continue their education after high school. Thus, the data compiled as part of the *Scope* study suggests that the significant increase in the relative numbers of Massachusetts high school graduates going on to some type of institution of higher education, which occurred in the years 1952 through 1962, is continuing.[3]

In the Boston Metropolitan Area, approximately 44 percent of public high school graduates from the area were enrolled in institutions of higher edu-

1. The discussion in this section is based on surveys of the post high school plans of Massachusetts high school graduates done by the Massachusetts Department of Education, a special study in student decision making carried out by the Center for Research and Development in Higher Education, University of California, Berkeley, and a separate survey of Boston Metropolitan Area graduates carried out for purposes of this inquiry. These several studies were done at various times, for different purposes, and there are differences in the number of high school graduates and school systems included in individual surveys. However, these studies can be utilized to describe the changes which have occurred in the educational plans of high school graduates, particularly Metropolitan Area graduates.
2. *SCOPE: School to College Opportunities for Postsecondary Education.* A Descriptive Report from the Center for Research and Development in Higher Education, University of California, Berkeley, 1967.
3. Table 6.

cation in 1958; by 1962, almost 53 percent were enrolled at institutions of higher education. A survey of public school systems and their graduates done in conjunction with this inquiry suggests that substantially more than 53 percent of today's area graduates continue their education after high school. In each of the years 1964 - 1967, more than 60 percent of the graduates of reporting public school systems planned to go on to some type of higher education.

A growing proportion of area high school graduates who continue their education are enrolling at public institutions of higher education.

While information obtained from local public school systems indicates that a greater proportion of their graduates who continue their education do attend private institutions, it also suggests that more and more of their college bound graduates are now bound for public institutions. In 1967, over 36 percent of their graduates who continued their education enrolled at a public institution, up from 33 percent in 1964 and only 26 percent in 1965. At the same time, the proportion of those area graduates who continued their education at a private institution fell from 44 percent in 1964, almost 51 percent in 1965, to 42 percent in 1967. (Table 8)

In 1967, a greater proportion of those high school graduates who were enrolled at a degree granting institution were attending a public institution and relatively fewer were attending a private institution than in any other year between 1964 and 1967.

The shift in the enrollment of area graduates from private to public institutions was most pronounced among four year institutions. Eighteen percent of the 1967 area high school graduates who continued their education enrolled at public four year institutions, while only 12 percent of the 1964 graduates did so. The proportion of those high school graduates continuing their education and enrolled at a private four year institution fell from a high of 45.2 percent in 1965 to 36.4 percent in 1967.

Despite the present preference for private institutions of higher education exhibited by high school graduates of Metropolitan Area public high schools[1], area guidance counselors expect that the enrollment of area graduates in public institutions, particularly two year institutions, will increase at an increasing rate. This, they say, is because graduates who formerly would apply to private institutions now apply to public institutions because of the constant rise in student charges at private institutions of higher education. Many local guidance counselors state specifically that "private institutions are pricing themselves out of the market." Additionally, it is suggested that the increased interest of private institutions in students from areas other than Massachusetts operates to make local graduates more interested in public institutions.

The costs and the location of public institutions are apparently the principal factors contributing to the increased interest in public higher education among area high school graduates.

1. Of the ten most popular institutions in terms of the enrollment of local high school graduates, six are private institutions; two of the first three are also private.

It should be pointed out that more than one force is at work. As the public system of higher education grows, it expands the opportunities available to students, not only by adding facilities, but also by reducing the costs. Many high school students not previously able to attend college at all begin to think seriously of the adventure and, consequently, the percentage of high school graduates going on to college begins to creep up. *Some* of the students now in public colleges would have made *additional* sacrifices and attended private schools if no alternative was available. Many others could never have made the increasingly heavy financial sacrifices required to attend private school (in some cases, leaving the state). Of the new higher percentage of people going on to higher education — just how many are in public schools because of the cost savings and how many would never be in school except for the cost saving, is an extremely difficult figure to estimate. However, we might venture a reasonable guess that there are more of the latter than of the former.[1]

In addition, the proximity of public institutions to area high school students reduces the costs of attending and appears to have a direct influence on the decision making process of area high school graduates.

In the opinion of area guidance counselors, public institutions of higher education, particularly those within or immediately adjacent to the Boston Metropolitan Area, benefit greatly from the desire of large numbers of area high school graduates to attend local institutions because of family ties and their interest in remaining in familiar surroundings.

Statements of area guidance counselors indicate that the present identification of the State Colleges as "Teacher Institutions" and Community Colleges as "Transfer Institutions" by high school graduates may limit their appeal. It would appear that the resolution of these central issues are dependent upon these factors: (1) further expansion of the academic programs available at each type of institution and perhaps, more critical, (2) development of better public understanding of the characteristics and goals of each type of institution. The community colleges have been developed as comprehensive institutions with equal or greater emphasis upon two year occupation programs than on transfer programs. At the same time, in their approximation to an open door policy, they do make opportunity available to students who would not usually be admissible as freshmen to four year institutions. The state colleges are evolving

1. In 1965, the University of Massachusetts Boston was established; the years 1961/1966 saw the creation of Massachusetts Bay Community College and North Shore Community College within the area and Northern Essex Community College and Massasoit Community College in towns immediately adjacent to the area. In recent years, all segments of public higher education have greatly expanded their enrollments. Table 7 suggests that much of the increase in the relative number of graduates continuing their education (the increase in the rate of "college going") is attributable to the increased enrollment at two year public institutions. The proportion of area high school graduates enrolling at private two year institutions is small and relatively stable. At the same time, the proportion of area graduates enrolling at Junior Colleges was only 5.4 percent in 1962 and was never lower than 11.4 percent in the years 1964 - 1967. In 1962 and in each year 1964 through 1967, the proportion of high school graduates enrolled in state colleges remained unchanged and in these same years the relative proportion enrolled at other four year institutions fluctuated between 27.3 percent and 31.9 percent.

into four year arts and sciences institutions. But it is clear that as yet these developments are not fully understood or recognized by the rest of the academic community or the public at large. Therefore, some of these reservations on the part of students will in probability disappear in the future.

A lack of facilities is no doubt the major reason for the fact that the relative number of public high school graduates reported to be enrolled within the State College System has been virtually unchanged for a decade.[1] However, the statements of area outside counselors suggest that the State College System has not yet overcome its long identification as mainly a Teacher College System. It was not until 1959 that the "State Teachers Colleges" were renamed "State Colleges" and given the authority to grant undergraduate degrees in the arts and sciences as well as the undergraduate and graduate degrees in education. These changes, although apparently not well known, provide students now attending area State Colleges with a substantially more diverse program. However, while the State Colleges within the Metropolitan Area now offer degree programs in the social sciences, physical sciences, and business and commerce, amny of which were not offered three or four years ago, almost two-thirds of all degrees conferred by these institutions were degrees in education.[2]

Given this predominance of education degrees awarded at these institutions, Table 9 suggests[3] the present predicament of the State College System, despite the substantial accomplishments of the system in broadening academic programs in the space of a few years. If, as the survey indicates, it is true that many students who would prefer to attend a state college do not do so because of the system's identification as teacher oriented, then a necessary part of any effort to improve the educational opportunities available to area graduates would include a substantial program enrichment within the State College System.[4] In addition this enrichment must be communicated to potential students.

A related issue, raised by observations of area guidance counselors, is the present identification of public two year institutions as transfer institutions. Guidance counselors are of the opinion that the public two year institutions serving the Metropolitan Area high school graduates are viewed by their students predominantly as transfer institutions. As such, they have been the major benefactories of the 'bumping effect'.[5]

Insofar as the 'bumping effect' is a partial explanation for the rapid increase in the enrollment of area graduates at two year institutions, then a major concern must be to define the type of student served by the Community

1. Table 7.
2. See Table 9.
3. Only to the extent that the 12th Grade students included in the sample are representative of all students, and further to the extent that the selection of a hypothetical college major is reasonably indicative of the actual college major finally selected.
4. It may be that all that is necessary is a more widespread knowledge among potential students of the liberal arts and business programs already available within the State College System.
5. More and more qualified students are applying to all types of institutions; the result of this increased competition is that students who would formerly be admitted to a four year institution ultimately enroll at a two year institution.

College System. If most of the area graduates enrolled at local two year institutions are from the outset interested in a four year education, then it could be argued that, at present, the Community College system is appealing to the same group of students as the four year institutions and, other things being equal,[1] it would make little difference as to the kind of facility established, two or four year, for one would be a substitute for the other.[2] If, on the other hand, large numbers of students attending local two year institutions are students who might not otherwise have enrolled at an institution of higher education, then the Community College System could be viewed as a complimentary segment of higher education, a segment which otherwise would not be available to a large group of the population.

The need to study the reasons for student attendance in the Community College System in Massachusetts is perhaps more acute given the fact that the public system of four year institutions of higher education, at least in the Boston Metropolitan Area, has at present a commuter or regional orientation.[3] Hence, in terms of the supposed advantage of regional convenience, the two systems should be equally well off.

The need to understand the educational needs of Area students is not restricted merely to certain segments of public higher education. It is obvious from available evidence that certain societal factors operate to limit the educational opportunities available to large numbers of Area graduates. Any successful attempt to remove these limitations must involve the full participation of all levels of education, be it public or private, as well as the cooperation and participation of all branches of government and private industry.

Since not all high school students continue, nor should be expected to, and because there are many factors responsible for those continuing their education that do, as many factors as possible should be examined. However, it is very difficult to isolate such factors. Earlier information suggested that proximity is a factor influencing the decision of area graduates.

Inequalities of Education Opportunity in Massachusetts, a preliminary report of the Massachusetts Advisory Council on Education, found that

> "(1) a high school graduate's chances of continuing his formal education in the year following graduation are less as the median family income of his community are lower. Between 50 % and 55% of high school graduates continue with some kind of formal education in low income communities, whereas the figure is 83% for the highest income level communities and 64% in the next highest.
>
> (2) the chances of attending a four year institution drop even more dra-

1. They may not be, for counselors are of the opinion that the fact that federal assistance is available only beyond the freshman year contributes to the attractiveness of community colleges to certain students.
2. Admittedly, one alternative would be to restrict two year campuses to lower division programs and to convert four year institutions to upper division and graduate programs.
3. See "The Critical Decade to 1980 — Massachusetts State Colleges," March 1968.

matically for pupils from low income communities. Only 25% of high school graduates from these communities go on to four year colleges, while 55% do so in the highest income communities and 33% in the next highest."[1]

An analysis of 1962 information on the number of Boston Metropolitan Area public high school graduates in terms of the economic level of their communities led to much the same conclusion.

There are substantial differences in the relative number of graduates from Area public secondary schools continuing their education and the type of institution attended by graduates when the communities are grouped to reflect income differences. For example, in 1962, 76 percent of the high school graduates in upper income communities continued their education and almost 50 percent were enrolled in four year institutions. In lower income communities, only 40.6 percent continued and less than 23 percent were enrolled at four year institutions.[2]

To the degree that private sectarian and non-sectarian high school systems differ from public school systems in terms of the economic status of their students, the large difference between the relative number of graduates continuing their education from private school systems and the public school systems is worth examining. Statistics show that almost 90 percent of graduates from private schools continue their education versus 60 percent of the graduates of public schools and this would seem to underline the importance of the socio-economic characteristic as a major influence in the decision making process of area high school graduates. (Table 12)

On a broader scale, in 1962, a series of predictive equations for college attendance by city and town within the Boston Metropolitan Area were determined which indicated that the proportion of high school graduates enrolling in higher education varied from 15 percent in one community to 79 percent in another. This variance was positively related to the public school expenditure per pupil, the relative number of individuals with more than a high school education, and the income level of the community. The proportions of high school graduates enrolling in higher education was negatively related to the relative number of individuals employed as craftsmen, service workers, and laborers.

Although one cannot assume a cause and effect relationship from the foregoing, it is not erroneous to conclude that certain societal factors will influence positively or negatively college attendance rates.

1. Andre Danier, *Inequalities of Educational Opportunities in Massachusetts.* Advisory Council on Education, Boston, preliminary draft of study.
2. Table 11.

TABLE 5

MASSACHUSETTS HIGH SCHOOL GRADUATES CONTINUING THEIR EDUCATION CLASSES OF 1952, 1956, 1958, 1960, 1962

	1952		1956		1958		1960		1962		Rate of Change 1956-62
	No.	%	No.	%	No.	%	No.	%	No.	%	
Number of Graduates	30,178		31,254		32,986		40,972		43,309		
Number of Graduates Attending:											
State Colleges	834	2.8	1,133	3.6	1,384	4.2	1,808	4.4	2,477	5.7	50.0%
Other 4 year Colleges	7,026	23.3[1]	6,839	21.9	7,748	23.6	10,053	24.5	10,529	24.3	10.9%
Junior Colleges			1,152	3.6	1,417	4.3	2,137	5.2	2,819	6.5	80.6%
Other Schools	3,713	12.3	4,120	13.1	4,613	14.0	6,996	17.1	6,917	16.0	22.2%
Total Continuing Education	11,573	38.4	13,244	42.2	15,162	46.1	20,994	51.2	22,742	52.5	24.4%

1. Includes Junior Colleges.

Source: *The High School Graduate and Higher Education*, Commonwealth of Massachusetts, Department of Education, June 1965.

TABLE 6

PERCENTAGE DISTRIBUTION
POST HIGH SCHOOL PLANS 12TH GRADE STUDENTS
MASSACHUSETTS
1966

	Percent
Full Time Job or Military Service	18.7
Business or Vocational School	9.5
Junior College	10.3
Four Year College	43.8
Job and School	3.6
Don't Know or No Response	14.1
	100.0
Total Number	6,335

Source: *School to College Opportunities for Postsecondary Education.* A Descriptive Report from the Center for Research and Development in Higher Education, Massachusetts 12th Grade Students, University of California, Berkeley, 1967.

TABLE 7

NUMBER OF GRADUATES AND PERCENT DISTRIBUTION OF GRADUATES CONTINUING THEIR EDUCATION BOSTON SMSA 1958 and 1962, 1965 - 1967

	1958	*1962*	*1965*	*1966*	*1967*
Number of Graduates	15,857	21,948	20,022[2]	19,213[2]	19,017[2]
Percent Continuing Their Education	43.7	52.9	60.1	63.1	60.6
at State Colleges	4.7	5.3	5.3	5.2	5.3
University and Other Four Year Colleges	21.7	27.3	29.7	31.9	28.9
Junior Colleges	4.0	5.4	11.4	11.7	14.0
All Other[1]	13.3	14.9	13.7	14.3	12.4

1. Proprietary and Specialized Schools (not 2 or 4 year degree granting institutions)
2. Public high schools

Source: 1958 and 1962: derived from information furnished by Massachusetts Board of Education

1964 - 1967: derived from information furnished by Metropolitan Area Higher Education Needs Study, Massachusetts Advisory Council on Education, Division of Higher Education, School of Education, Boston College.

TABLE 8

NUMBER OF PUBLIC HIGH SCHOOL GRADUATES CONTINUING THEIR EDUCATION AND PERCENT DISTRIBUTION BY TYPE OF INSTITUTION ATTENDED BOSTON SMSA

	1965	*1966*	*1967*
Number Continuing	12,033	12,123	11,557
Public Institutions			
Two Year	13.3	13.5	18.2
Four Year	13.0	18.2	18.2
Total	26.3	31.7	36.4
Private Institutions			
Two Year	5.6	5.1	5.0
Four Year	45.2	40.6	37.4
Total	50.8	45.7	42.4
All Other[1]	22.8	22.7	21.3

1. Proprietary and Specialized Schools (not two or four year degree granting institutions).

Source: derived from information furnished by Metropolitan Area Higher Education Needs Study, Massachusetts Advisory Council on Education, Division of Higher Education, School of Education, Boston College.

TABLE 9

HYPOTHETICAL COLLEGE MAJOR MASSACHUSETTS 12TH GRADE STUDENTS

	No.	*%*
Business	1148	18.1
English	286	4.5
Social Sciences, History	352	5.6
Biological Sciences	271	4.3
Physical Sciences	129	2.0
Mathematics	348	5.5
Vocational and Industrial Arts	210	3.3
Language, Fine Arts, & Philosophy	275	4.3
Education (including Phys. Ed.)	474	7.5
Engineering, Architecture	401	6.3
Liberal Arts	419	6.6
The Arts (Music, Drama)	179	2.8
Medical Technology, Nursing	288	4.5
Professional (Law, Medical)	244	3.9
Other	791	12.5
No Response/Undecided	520	8.2
	6335	100.0

Source: *School to College Opportunities for Postsecondary Education*, a Descriptive Report from the Center for Research and Development in Higher Education, Massachusetts 12th Grade Students, University of California, Berkeley, 1967.

TABLE 10

NUMBER OF PUBLIC HIGH SCHOOL GRADUATES CONTINUING THEIR EDUCATION AND TYPE OF INSTITUTION ATTENDED BY ECONOMIC LEVEL BOSTON SMSA 1962

	SMSA		*Upper*[a]		*Middle*[b]		*Lower*[c]	
	No.	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
Graduates	21,948		4,770		5,790		10,937	
Graduates Continuing Education	11,367	51.9	3,619	75.9	3,307	57.1	4,441	40.6
at Four Year Institutions	6,947	31.6	2,380	49.8	2,068	35.7	2,499	22.8
Junior Colleges	1,129	5.4	519	10.9	294	5.1	366	3.3
All Other[1]	3.241	19.8	720	15.1	945	16.3	1,576	14.4

a communities in which 30 percent or more of the families have incomes in excess of $10,000
b communities in which between 20 percent and 30 percent of the families have incomes in excess of $10,000
c communities in which less than 20 percent of the families have incomes in excess of $10,000
1. Proprietary and Specialized Schools (not two or four year degree granting institutions)
Source: Massachusetts Department of Education; United States Department of Commerce, Bureau of the Census; Detailed Social and Economic Characteristics, Massachusetts, 1960.

TABLE 11

GRADUATES OF PRIVATE (Sectarian and Non-Denominational) HIGH SCHOOLS AND TYPE OF INSTITUTION ATTENDED BOSTON SMSA 1964 - 1967

	1964		1965		1966		1967	
	No.	%	No.	%	No.	%	No.	%
Number in Sample	2453		2506		2518		2463	
Number Continuing	1624	66.2	2261	90.2	2396	95.2	2305	93.6
at Two Year/Junior Colleges	120	7.4	154	6.8	188	7.8	139	6.0
Four Year Colleges	1351	83.2	1990	88.0	2069	86.4	2029	88.0
Non-Degree Granting Institutions	153	9.4	117	5.2	139	5.8	137	5.9

Source: Metropolitan Area Higher Education Needs Study, Division of Higher Education, School of Education, Boston College, 1968.

TABLE 12

ENROLLMENT IN PUBLIC AND PRIVATE INSTITUTIONS OF HIGHER EDUCATION MASSACHUSETTS AND BOSTON SMSA 1966

	Massachusetts	*Boston SMSA*
Private Institutions	161,400	123,400
Public Institutions	57,200	18,200
Total	218,600	141,600

Source: *Opening Fall Enrollment in Higher Education*, Office of Education, United States Department of Health, Education, and Welfare.

TABLE 13

DEGREES CONFERRED BY INSTITUTIONS OF HIGHER EDUCATION MASSACHUSETTS AND BOSTON SMSA 1964

	Bachelor's	*First Professional*	*Master's*	*Doctor's*	*Total*
Massachusetts	18,548	2,569	5,744	1,028	27,889
Boston SMSA	11,446	2,498	4,385	954	19,283

Source: *Earned Degrees Conferred*, United States Department of Health, Education and Welfare, Office of Education.

Chapter III

The Region's Institutions of Higher Education

Concentrated in the Boston Metropolitan Area are 57 institutions of higher education with a 1966 student enrollment of 141,000. The region contains more than one half of all the institutions of higher education in the Commonwealth of Massachusetts. Its 141,000 students represent more than 65 percent of the total enrollment at all institutions of higher education within the state. (Table 12)

In 1964, the region's institutions awarded approximately 19,300 degrees, or almost 70 percent of all degrees awarded by all Massachusetts' institutions. Institutions within the area awarded 75 percent of all Master's Degrees conferred by Massachusetts' institutions of higher education and virtually all First Professional and Doctor's Degrees. (Table 13)

Forty-eight of the 57 institutions of higher education within the Metropolitan Region are private; only nine — seven state and two municipal — are publicly controlled.

The region's private sector of higher education is a billion dollar enterprise. In 1965, the total value of real and personal property held by the region's private institutions of higher education totaled over 1.5 billion dollars. (Table 17) The reported expenditures of the area's private institutions totaled more than 400 million dollars for 1965.[1]

Eighty-eight percent of the 141,000 students attending institutions of higher education located within the Boston Area were attending private institutions, only 12 percent were attending public institutions. (Table 12)

Private institutions awarded almost 90 percent of the estimated 26,200 degrees conferred by all institutions located within the area in 1966. Table 15 clearly demonstrates the vast difference, moreover, between the academic programs available at private institutions and those available at public four year institutions.

The presence of such a large, well known system of private higher education presents the Commonwealth with the unique opportunity to develop a complimentary public/private system of higher education. At the same time, it poses the danger that the formulation of a long term public policy for higher education, which fails to understand the plans and programs of private institutions, may be neither adequate nor effective. For obvious reasons then, the inquiry is directed not merely at the public sector of higher education, but is equally concerned with the future development of the region's private institutions of higher education.

Prior to the creation of the Board of Higher Education, no single agency,

1. Commonwealth of Massachusetts, Department of Corporation and Taxation.

TABLE 14

EARNED DEGREES BY MAJOR SUBJECT FIELD AND LEVEL
PUBLIC AND PRIVATE FOUR YEAR INSTITUTIONS
BOSTON SMSA
1955/56 and 1966/67

	BACHELOR'S						*MASTER'S*						*DOCTOR'S*					
	Public		*Private*		*Total*		*Public*		*Private*		*Total*		*Public*		*Private*		*Total*	
	1955	*1966*	*1955*	*1966*	*1955*	*1966*	*1955*	*1966*	*1955*	*1966*	*1955*	*1966*	*55*	*56*	*1955*	*1966*	*1955*	*1966*
Agriculture	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architecture	—	—	46	61	46	61	—	—	84	108	84	108	—	—	1	10	1	10
Biological Science	—	—	379	708	379	708	—	—	77	68	77	68	—	—	47	101	47	101
Business & Comm.	—	23	2056	2133	2056	2156	—	—	120	631	120	631	—	—	17	22	17	22
Education	359	621	937	1438	1296	2059	114	641	720	1816	834	2457	—	—	54	152	54	152
Engineering	—	—	1010	1101	1010	1101	—	—	596	1089	596	1089	—	—	97	221	97	221
English & Journ.	—	121	659	1120	659	1241	—	—	136	252	136	252	—	—	28	37	28	37
Fine & Appl. Arts	—	71	356	679	356	750	—	—	135	118	135	118	—	—	44	8	44	8

TABLE 14 (Cont.)

For. Lang. & Lit.	—	22	195	626	195	648	—	—	61	200	61	200	—	—	26	56	26	56
Geography	—	5	14	5	14	10	—	—	2	—	2	—	—	—	2	—	2	—
Health	—	—	868	997	868	997	—	—	102	597	102	597	—	—	6	42	6	42
Home Economics	55	49	30	17	85	66	—	—	—	—	—	—	—	—	—	—	—	—
Law	—	—	800	1011	800	1011	—	—	65	108	65	108	—	—	6	3	6	3
Library Science	—	—	62	—	62	—	—	—	—	144	—	144	—	—	—	—	—	—
Math. Subjects	—	44	138	462	138	506	—	—	45	173	45	173	—	—	12	45	12	45
Philosophy	—	—	188	240	188	240	—	—	29	21	29	21	—	—	4	—	4	—
Phys. Sciences	—	11	435	478	435	489	—	—	145	188	145	188	—	—	102	205	102	205
Psychology	—	—	185	469	185	469	—	—	35	168	35	168	—	—	19	32	19	32
Religion	—	—	277	375	277	375	—	—	64	171	64	171	—	—	13	52	13	52
Social Sciences	—	135	1817	2705	1817	2840	—	—	305	927	305	927	—	—	131	734	131	734
Trade & Industry	—	—	—	260	—	260	—	—	—	—	—	—	—	—	—	—	—	—
Miscellaneous	—	16	138	393	138	409	—	—	36	72	36	72	—	—	—	16	—	16
Total	414	1118	10590	15278	11004	16396	114	641	2757	6851	2871	7492	—	—	609	1736	609	1736

Source: 1955/56: *Earned Degrees Conferred*, U.S. Department of Health, Education and Welfare, Office of Education.
1966/67: Estimates based on information from participating institutions.

TABLE 15

REAL AND PERSONAL PROPERTY HOLDINGS PRIVATE INSTITUTIONS OF HIGHER EDUCATION BOSTON SMSA 1960, 1965

	1960	*1965*
Real Estate Holdings	$200,201,823	$ 407,297,382
Shares in National Banks	2,219,389	6,679,632
Shares in Corporations	261,746,095	392,807,410
Bonds and Public Securities	318,170,023	484,660,087
Money at Interest and on Deposit	15,935,583	132,539,924
Library and Apparatus and other Personal Property	39,735,591	97,679,781
Total Personal Property	640,063,284	1,126,056,573
Total Real Estate and Personal Property	840,265,107	1,533,153,955

Source: Returns of Property Held for Literary, Benevolent, Charitable, Scientific, and Other Purposes Exempted from Taxation under Chapter 59, General Laws. Massachusetts Department of Corporations and Taxation.

department, or Board of the Commonwealth had the responsibility to develop a coordinated and comprehensive public policy for higher education. Thus, at the time the Board initiated this inquiry, there was not in existence any organized, systematic process for the collection, analysis, and dissemination of information on higher education in the Commonwealth.

The lack of necessary data and methodology, with particular reference to private institutions, led to a decision not to develop an independent projection of the future student bodies of institutions within the region, but rather to develop an estimate based on projections made by the institutions themselves.

Admittedly, estimates developed in this way reflect the separate sentiments of individual institutions and their differing goals and aspirations. The estimates, then, do not reflect an orderly and systematic definition of purpose and goals nor a coordinated attempt to attain them. The fact is that the way in which higher education has developed in the Metropolitan Area has been neither orderly nor systematic.

Available information indicates that while the rate of growth in enrollments of existing area public institutions will be appreciably higher than that for area private institutions, higher education within the area will continue to

be largely private, with an estimated 156,400 students enrolled at private institutions.

In the decade 1968 - 1977, enrollments at area institutions will increase by an estimated 34.2 percent, 52,000 students. By 1977, the total enrollment at area institutions will reach 200,755 students.

Approximately one-half of the estimated increase in enrollments at area private institutions will occur at the graduate level. Graduate enrollments at private institutions are expected to increase by almost 14,000 students of 44 percent between 1968 and 1977. Undergraduate enrollments are expected to increase by slightly less than 15 percent, 96,900 to 111,100 during the same period.

At area public institutions, virtually all of the anticipated increase in student enrollments will be at the undergraduate level. Of the expected increase of 25,000 at area public institutions between 1968 and 1977, 23,000 will be in undergraduate enrollments. (Table 16)

Enrollments at area public institutions, which increased by over 370 percent between 1958 and 1966, are expected to grow by 122 percent between 1968 and 1977. Despite this substantial increase in enrollments, an estimated 900 percent for the twenty year period 1958/1977, enrollments at public institutions in 1977, an estimated 44,850 students, will account for only slightly more than 22 percent of the estimated total enrollment at all institutions of higher education within the region.

There are substantial differences in the composition of the student bodies of area private and public institutions of higher education. Undergraduate student bodies at area private institutions are national in character and made up of students from relatively high income families.

A recent survey carried out by the University of Massachusetts indicates that while residents of Massachusetts accounted for 53 percent of all undergraduate enrollments at private colleges and universities within the Metropolitan Area in 1955, by 1966 Massachusetts residents accounted for only 44.5 percent.[1]

In this present inquiry, information was obtained on the place of residence of the families of almost 11,000 1967 freshmen students attending area private institutions. Almost 60 percent of the incoming freshmen at these institutions came from outside of Massachusetts; only 17 percent were from the Boston Metropolitan Area. In sharp contrast, virtually all undergraduate students attending area public institutions are Massachusetts residents and 78 percent of the undergraduate student bodies at public institutions are from the Boston Metropolitan Area. (Table 19)

In addition to the substantial differences in the geographic origins of their respective student bodies, it appears that there are equally wide differences in

1. Raymond Castelogoppi. *Undergraduate Enrollment of Massachusetts Residents in Private Colleges and Universities in Massachusetts, 1955-1966*, Office of Institutional Studies, University of Massachusetts, Amherst, 1967.

the economic backgrounds of students enrolled at area private and those enrolled at area public institutions. Almost half, 47.9 percent, of the students surveyed by area private institutions furnishing data on the characteristics of their student bodies reported a family income in excess of $10,000; 27 percent reported a family income in excess of $15,000. Less than 25 percent of the students surveyed by area public institutions reported a family income in excess of $10,000 and only 8.3 percent indicated a family income in excess of $20,000.

As one would expect given the apparent level of family income of students attending private institutions, the fathers of a majority of these students, 51.4 percent, had at least some college training, and 37 percent were college graduates. Less than 25 percent of the students attending public institutions indicated that their fathers had some college training and only 12.3 percent indicated that their fathers were college graduates. (Table 20)

Undergraduate students attending area private institutions are typically non-Massachusetts residents from well educated and relatively high income families.

For various reasons including institutional policy and the rising costs of higher education, it appears that area private institutions will, under present conditions, become more national in character, with the result that there will be a gradual reduction in the relative numbers of Massachusetts and Area students in the undergraduate student bodies of private institutions during the decade.

The proportion of Massachusetts residents in the undergraduate student bodies of Metropolitan Area private institutions fell from 53 percent in 1955 to 45 percent in 1966[1]. Information furnished by area private institutions during the course of this inquiry indicated that only 41 percent of the 1967 entering freshman class were from Massachusetts and only 17 percent were from the Metropolitan Area. Most of these institutions indicated that they expect this trend to continue. An estimate based on the information furnished by these institutions and a continuation of the present trend indicates that by the late seventies Massachusetts residents would make up one-third of the full time undergraduate student bodies of area private institutions of higher education; only 15 percent of their full time undergraduate student bodies would be from the Boston Area.

The interest of area private institutions in providing more "on campus" residential facilities for their student bodies is no doubt a reflection of their desire to become increasingly more national in character. Virtually all institutions responding to this inquiry indicated that during the coming decade they expected substantially to increase the amount of institutionally controlled housing available to their undergraduate student bodies.

Present and projected costs of attending area private institutions would in themselves tend to result in the student bodies of area private institutions becoming more heavily national in character.

1. Raymond Castelogoppi, *op. cit.*

The costs of higher education at area private institutions will continue to rise. Average student charges — tuition, fees, and room and board — rose by approximately 21 percent between 1962 and 1966. They are expected to increase from $2600 in 1966 to $2800 in 1968, an increase of 7 percent. A moderate 3 percent annual increase in basic student charges over the coming decade would result in student charges of approximately $3300 per student in 1972 and $3700 per student by 1977.

The full time student attending a four year private institution who, in 1962/63, typically paid $1200 or less in tuition and fees and an additional $800 to $900 for room and board if living on campus, in 1977 will pay $2400 in tuition and fees alone plus $1300 or more if he lives on campus. (Table 21)

TABLE 16

ACTUAL AND ESTIMATED ENROLLMENTS
PUBLIC AND PRIVATE INSTITUTIONS
BOSTON SMSA
SELECT YEARS 1958 - 1977

	1958/59	*1966/67*	*1968/69*	*1972/73*	*1977/78*
Private Institutions					
Undergraduate	62,913	92,147	96,930	101,498	111,075
Graduate	20,929	31,295	31,500	37,820	45,330
Total	83,842	123,442	128,430	139,318	156,405
Public Institutions					
Undergraduate	4,023	15,731	17,565	26,000	40,050
Graduate	298	2,420	2,600	3,320	4,800
Total	4,321	18,151	20,165	29,320	44,850

Source: 1958/59 and 1966/67: *Opening Fall Enrollment*, United States Department of Health, Education, and Welfare, Office of Education.
1968/69 - 1977/78: Estimates based on information supplied by participating institutions.

TABLE 17

ACTUAL AND ESTIMATED ENROLLMENTS IN TWO AND FOUR YEAR INSTITUTIONS OF HIGHER EDUCATION BOSTON SMSA

	1958/59	*1966/67*	*1968/69*	*1972/73*	*1977/78*
Four Year Institutions					
Public	4,321	14,920	16,500	23,120	34,250
Private	80,125	116,768	120,850	129,823	145,830
Total	84,446	131,688	137,350	152,943	180,080
Two Year Institutions					
Public	376	3,231	3,665	6,200	10,100
Private	3,997	6,674	7,580	9,495	10,575
Total	4,373	9,905	11,245	15,695	20,675

Source: 1958/59 and 1966/67: *Opening Fall Enrollment*, United States Department of Health, Education and Welfare, Office of Education.

1968/69 - 1977/78: Estimates based on information supplied by participating institutions.

TABLE 18

ACTUAL AND ESTIMATED FULL TIME UNDERGRADUATE ENROLLMENTS INSTITUTIONS OF HIGHER EDUCATION BOSTON SMSA

	1958/59	*1966/67*	*1968/69*	*1972/73*	*1977/78*
Public Institutions	3,736	14,951	17,265	25,150	38,150
Private Institutions	46,559	70,963	76,180	80,865	88,565
Total	50,295	85,914	93,445	106,015	126,715

Source 1958/59 and 1966/67: *Opening Fall Enrollment*, United States Department of Health, Education and Welfare, Office of Education.

1968/69 - 1977/78: Estimates based on information supplied by participating institutions.

TABLE 19

GEOGRAPHIC DISTRIBUTION OF UNDERGRADUATE ENROLLMENT PUBLIC AND PRIVATE INSTITUTIONS BOSTON SMSA 1967

	Number	*Percent*
Private Institutions[1]		
Greater Boston	1,762	17.1
Other Massachusetts	2,679	24.5
Other New England	3,018	27.6
Other United States	3,233	28.5
Foreign	254	2.3
Total	10,946	100.0
Public Institutions[2]		
Greater Boston	7,213	78.0
Other Massachusetts	1,879	20.9
Other New England	32	0.4
Other United States	29	0.3
Foreign	10	0.1
Total	9,163	100.0

1. Freshmen only; also excludes students attending seminaries and other religious institutions.
2. All undergraduates.

Source: Information fu. nished by participating institutions.

TABLE 20

SELECT STUDENT CHARACTERISTICS AT PUBLIC AND PRIVATE INSTITUTIONS BOSTON SMSA

	Public		*Private*	
Income	*Number*	*Percent*	*Number*	*Percent*
$4,000 or Less	231	4.8	325	3.2
$4,000 to $7,999	1,927	40.0	1,797	17.5
$8,000 to $9,999	1,320	27.4	1,222	11.9
$10,000 to $14,999	939	14.5	2,077	20.3
$15,000 to $19,999	202	4.2	1,071	10.4
$20,000 and over	198	4.1	1,767	17.2
Unknown	—	—	1,989	19.4
Total	4,817	100.0	10,248	100.0
Father's Education				
Grade School or Less	155	3.9	409	3.6
Some High School	925	23.2	1,596	14.0
High School Graduate	1,587	39.8	3,088	27.1
Jr. College, Business, or Vocational School	339	8.5	439	3.8
Some College	486	12.2	1,635	14.3
College Graduate	311	7.8	2,398	21.0
Graduate Degree	179	4.5	1,838	16.1
Total	3,982	100.0	11,403	100.0
Father's Occupation				
Unskilled	152	3.8	324	2.8
Semi-skilled	407	10.2	594	5.2
Service Worker	694	17.4	283	2.5
Skilled or Craftsman	985	24.7	1,241	10.7
Office or Salesman	542	13.6	736	6.4
Small Businessman	446	11.2	1,159	10.1
Middle Level Executive	315	7.9	440	3.8
Professional (Undergrad. Degree)	135	3.4	1,262	11.0
High Level Executive	100	2.5	1,025	9.0
Professional (Grad. Degree)	78	2.0	1,699	14.9
Other	124	3.1	2,663	23.4
Total	3,978	100.0	11,426	100.0

1. Freshmen only; also excludes students attending seminaries and other religious schools.
Source: Information furnished by participating institutions.

TABLE 21

ACTUAL AND ESTIMATED BASIC STUDENT CHARGES
PRIVATE INSTITUTIONS
BOSTON SMSA
(WEIGHTED AVERAGE)

	1962/63	*1966/67*	*1968/69*	*1972/73*	*1977/78*
Four Year Institutions					
Tuition and Fees	1,223	1,557	1,719	2,100	2,400
Room and Board	915	1,020	1,090	1,200	1,350
Total	2,138	2,597	2,809	3,300	3,750
Two-Year Institutions					
Tuition and Fees	785	1,129	1,247	1,430	1,650
Room and Board	1,150	1,392	1,511	1,740	1,970
Total	1,935	2,521	2,758	3,170	3,620

Source: 1962/63 and 1966/67: *Facts About New England Colleges and Universities*, New England Board of Higher Education.
1968/69 - 1977/78: Information supplied by participating institutions.

TABLE 22

ESTIMATED CURRENT FUND REVENUE AND EXPENDITURES PRIVATE INSTITUTIONS[1] BOSTON SMSA
(Percents and 000's of $)

	1968/69		*1972/73*		*1977/78*	
REVENUE	*$*	*%*	*$*	*%*	*$*	*%*
Education and General						
Tuition and Fees	90,677	54.2	108,047	51.5	134,804	50.3
Endowment	4,852	2.9	6,294	3.0	8,576	3.2
Federal Government	34,631	20.7	44,268	21.1	62,980	23.5
Total Educational and General	133,672	79.9	164,903	78.6	214,936	80.2
Student Aid Revenue	4,350	2.6	6,174	3.2	8,040	3.0
Auxiliary Enterprise	29,278	17.5	38,184	18.2	45,024	16.8
Total Current Revenue	167,300		209,800		268,000	
EXPENDITURES						
Education and General						
Instruction and Departmental Research	65,756	37.5	80,210	37.1	102,010	36.8
Libraries	3,920	2.2	4,324	2.0	8,316	3.0
Operation and Maintenance of Physical Plant	12,474	7.1	15,783	7.3	22,176	8.0
General Administration and General Expense	19,062	11.2	21,620	10.0	26,334	9.5
Organized Research	35,640	20.3	43,456	20.1	55,163	20.1
Other Sponsored Activities	5,168	2.9	5,405	2.5	5,821	2.1
Total Educational and General	139,709	79.7	170,798	79.0	219,820	79.3
Student Aid Grants	7,306	4.2	8,432	3.9	14,414	5.2
Auxiliary Enterprises	28,303	16.1	36,970	17.1	42,966	15.5
Total Current Fund Expenditures	175,318		216,200		277,200	

1. Excludes Harvard, M.I.T., Radcliffe, and Wellesley.
Source: Information furnished by participating institutions.

The costs to the student of attending area private institutions may be appreciably higher. Most private institutions within the region expect to be faced with financial difficulties during the foreseeable future.

The current deficit for these institutions may reach $8 million in 1968/69 and gradually increase to $9.2 million by 1977/78. A cursory analysis of the future behavior of the current revenue and expenditures of area private institutions[1], based on admittedly limited financial information furnished by several institutions, indicates that a majority of those area private institutions already may be experiencing some financial difficulty and that they expect to be under some financial pressure for the immediate future.

Current revenue of private institutions is expected to increase by 101 million dollars over the decade 1968-1977 as a result of an estimated increase of 44 million dollars in revenue from tuition and fees and a 28 million dollar increase in federal funds.

Current expenditures are expected to rise by approximately 102 million dollars during the period. Over the period 1968-1977, expenditures for instruction and departmental research will increase an estimated 36.3 million dollars or 55 percent. While dollar increase in expenditures will be greatest for instruction and departmental research, the rate of increase in expenditures will be much higher in non-instructional areas. Expenditures for libraries will more than double from 3.9 million dollars in 1968 to 8.3 million dollars in 1977. Expenditures for the maintenance of the physical plant will increase by almost 80 percent from 12.4 million dollars to 22.2 million dollars. It appears, then, that the sources of revenue now available to these private institutions are not adequate for the educational program and plant now in existence at these institutions, nor will the anticipated increases in revenue from these sources be adequate for the type of educational program and plant envisioned by these institutions in the future. (Table 22)

While it is true that these area private institutions do anticipate that increased federal funds will make them less reliant on tuition and fees as a source of revenue, it is equally true that tuition and fees account for more than one-half of all current revenue and will continue to be their major revenue source. Given this dependence on tuition and fees, a source which is apparently already inadequate, and lacking adequate alternative sources of revenue, it appears that if the private institutions' expenditures rise as fast, or faster, as they presently anticipate, further increases in tuition and fees or a reduction in their planned expansion of programs and plant would appear to be necessary.

1. Excluding Harvard, Wellesley, Radcliffe, and Massachusetts Institute of Technology. In 1965, these four institutions possessed 75 percent of all real and personal property held by area private institutions and accounted for almost 70 percent of all income and expenditures.

Chapter IV

Further Analysis

In the preceeding pages of this inquiry the Boston Area's population, its high school graduates and its institutions, their present size and intentions, as well as their future course were examined. The implications, in quantitative terms, of a continuation of these currently discernible trends in higher education for the Area is our present concern.

Table 23 is an attempt, in summary form, to illustrate the magnitude of the problem facing the Commonwealth of Massachusetts in its efforts to provide opportunities in higher education for those Metropolitan Area students who may be seeking such opportunities by the late 1970's.

Table 23 clearly demonstrates that in the future public policy and funding will be the principal determinants of the educational opportunities available to the vast majority of the area's college age population.

By 1980, an estimated 146,500 area 18/21 year olds — 70 percent of all area 18/21 year olds — will be seeking opportunities in higher education, an increase of 58,000 over the number of 18/21 year olds estimated to be enrolled in 1965.

Most students will be seeking to enroll at institutions located within the Commonwealth, as various factors, primarily the costs of private education and their own locational preferences, are expected to operate to reduce the relative number of Area residents desirous or able to attend out-of-state institutions.

It also appears likely that relatively fewer students will be interested in attending Area proprietary and specialized schools. The number of places available to Area students at private degree institutions within the area will not change appreciably during the period, as their limited undergraduate expansion, substantial increases in their student charges, and the trend toward national student bodies are expected to limit the ability of Area students to enroll at these institutions.

While the number of potential Area students seeking in-state opportunities is expected to increase by 58,000 between 1965 and 1980, opportunities available to Area students at institutions within the region will increase by only 19,000; virtually all of this increase can be attributed to the expansion of existing public institutions.

A number of Area students will, as they do today, enroll at the other public and private institutions in Massachusetts which are outside of the Metropolitan Area. Then, as now, most will be enrolling at public institutions.[1] Private

1. Information provided by public institutions outside of the Metropolitan Area indicates that between 8,000 and 9,000 Area students are enrolled as undergraduates at these institutions. Information provided by several non-Metropolitan Area private institutions indicates that Metropolitan Area students account for 10 to 15 percent of their undergraduate student bodies. Between 3,000 and 4,000 Area students are perhaps now enrolled at private institutions outside of the region.

institutions outside of the Metropolitan Area do not expect to be able to enroll appreciably more Area students than they do at present. They indicate, like their Metropolitan Area counterparts, that they anticipate very little expansion in their undergraduate enrollments over the next decade or so and that they, too, expect a gradual reduction in the number of Massachusetts students in their undergraduate student bodies.

If, as it appears, the enrollment of area students at private institutions, either because of the students' locational and financial preferences or institutional policy regarding student expenses, composition of student body and the rate of expansion, does not change appreciably from present levels then, if the 58,000 additional Metropolitan Area students expected between 1965 and 1980 are to be provided with opportunities in higher education, it would require public action.

Table 24, which was constructed using information obtained from the survey of local high school systems, indicates much the same conclusion. Estimates based on present evidence would indicate that, by 1980, 54 percent of Area students seeking in-state opportunities would be enrolled at public institutions, up from 30 percent in 1965. Virtually all of the additional students expected between 1965 and 1980 would be enrolling in public institutions. It would appear then that both student and institution have the same future expectations. Both the potential student and the institutions agree that under existing conditions public higher education must play an increasingly larger role in providing opportunities in higher education.

The present inquiry is not immediately concerned with the capital cost associated with creating an additional 58,000 undergraduate places by 1980, as it makes no attempt to describe the additional places necessary, by level, two or four year institutions, by location, or by academic program, all of which will influence the capital requirements for the necessary facilities in higher education.

Present plans for the Boston Metropolitan Area, before the various segments of public higher education, however, indicate that the capital requirements for educational facilities necessary to provide opportunities in higher education to all area students expected to be seeking such opportunities in 1980, would in current dollars approach $598 million.

Present estimates of the various public institutions and segments appear to indicate that at some time in the late seventies, and no later than 1980, the public sector of higher education within the Metropolitan Area could be comprised of 14 institutions with an enrollment of approximately 80,000 students. (Table 25)

These proposals would add approximately 60,000 undergraduate places within the Boston Metropolitan Area during the period. If we assume that all additional places are taken by Metropolitan residents[1], then the present pro-

1. Obviously, they will not. Some area students will, as they do now, go to public institutions outside the area and students from outside the Boston Metropolitan Area will enroll at Area institutions. Wh and how many enter or leave the area will depend on the location educational program, housing facilities, family considerations, etc.

posals of public education are adequate in terms of expected increase in the numbers of potential students from the Boston Metropolitan Area.

The estimated cost in current dollars for creating such a system of public higher education within the Metropolitan Area is $598 million.

At current levels of support per student at existing area public institutions, maintenance appropriations for a system of public higher education enrolling 80,000 students would approach $96 million by 1980, or more than five times the fiscal 1968 appropriation for public institutions within the area of 13.2 million dollars.

The actual capital and maintenance appropriations necessary to provide the facilities and educational programs to meet the higher educational needs of future area students will, in all probability, be appreciably higher given a continuation of funds in the costs of higher education.

The major conclusion of this inquiry into the need for higher education in the Boston Metropolitan Area is that, in future years, the ability of the vast majority of area students to obtain opportunities in higher education will be far more dependent on public policy than it was in the past. The future pervasiveness of public policy in determining the type, level, and quality of higher educational opportunities available to future students requires that such policy be based on clear and complete understanding of the plans, aspirations, and capabilities of the students and institutions, public and private.

The enormity of the task facing the public sector of higher education if it is to meet the cultural and educational needs, not only of future students, but of society, is the most compelling reason for arguing for improved planning and coordination for all of public higher education and for creating an organized and integrated planning process which allows the goals and aspirations of the private sector of higher education to become a major component in any proposed development of a system of higher education.

The recommendations which follow address themselves to development of the means for effective continuous planning in the Metropolitan Area to meet both the quantitative and qualitative needs of the students in the area as effectively as possible and to do so with emphasis upon complementation of efforts to accomplish the urgent tasks ahead. To meet these needs will require not only major expansion of public institutions of higher education but continued strong higher educational private institutions capable of meeting and perhaps revising their present projections for the future. We are past the point at which we can afford anything less than the fullest cooperation among all higher educational institutions if the social and educational needs of the total community are to be met. While the body of the report develops the scope of the quantitative problem facing public higher education it does so on the assumption that there will be no serious impairment of effort in the private sector. To insure that such impairment does not happen the recommendations are addressed to the problems of the private institutions as well as public institutions and stress the need for strengthening and continuing common planning in all sectors in the period ahead.

TABLE 23

ESTIMATED DISTRIBUTION OF POTENTIAL BOSTON AREA STUDENTS
1965 - 1980

	1965	*1970*	*1975*	*1980*	*Increase 1965/1980*
Number of 18/21 year olds	161,000	174,200	197,900	209,400	
Percent continuing their education	55%	60%	65%	70%	
Number continuing their education	88,500	104,500	128,700	146,500	+58,000
Number attending out-of-state institutions	20,500	20,500	20,500	20,500	
Number remaining in-state	68,000	84,000	108,200	126,000	+58,000
AREA STUDENTS ENROLLED AT PRIVATE INSTITUTIONS WITHIN THE REGION					
Proprietary and specialized institutions	15,000	15,000	15,000	15,000	
Degree granting 2 and 4 year institutions	25,400	25,700	26,300	26,900	+ 1,500
Total	40,400	40,700	41,300	41,900	+ 1,500
AREA STUDENTS ENROLLED AT EXISTING PUBLIC INSTITUTIONS WITHIN THE REGION					
Total	12,100	13,400	19,700	29,700	+17,600
Students seeking in-state opportunities	15,500	29,900	47,300	54,400	+38,900

TABLE 24

DISTRIBUTION OF ESTIMATED NUMBER OF BOSTON SMSA 18/21 YEAR OLDS SEEKING IN-STATE OPPORTUNITIES IN HIGHER EDUCATION 1965 - 1980

	1965		*1970*		*1975*		*1980*	
	Number	*%*	*Number*	*%*	*Number*	*%*	*Number*	*%*
In-State Opportunities	68,000		84,000		108,300		126,000	
Public	20,100	30	33,600	40	51,000	47	68,100	54
Private	33,600	49	33,600	40	37,800	35	40,300	32
Proprietary and Specialized	14,300	21	16,800	20	19,500	18	17,600	14

Basis for 1965 Distribution derived from information contained in Metropolitan Area Higher Education Needs Study, Massachusetts Advisory Council on Education, Division of Higher Education, School of Education, Boston College

Estimates for 1970, 1975, and 1980:
Assuming the proportion of students enrolling at
public institutions will increase at 3.5 percent per year
private institutions will decrease at 1.7 percent per year
proprietary and specialized institutions will decrease at 1.0 percent per year

TABLE 25

ESTIMATED ENROLLMENTS
PUBLIC INSTITUTIONS
BOSTON SMSA
1980

University of Massachusetts — Boston			15,000
Existing State Colleges			
Boston State	9,300		
Framingham	3,200		
Salem	5,500		
Massachusetts College of Art	2,000		
		20,000	
New State Colleges			
Greater Boston North	5,000		
Greater Boston West	6,000		
		11,000	
Total State Colleges			31,000
Existing Community Colleges			
Massachusetts Bay	7,500		
North Shore	5,000		
		12,500	
New Community Colleges			
Southwest Boston	5,000		
South Shore	3,500		
West Suburban	5,000		
Northwest Suburban	4,500		
Southwest Suburban	3,500		
		21,500	
Total Community Colleges			34,000
Total All Public Institutions			80,000

Source: *The Critical Decade to 1980 — Massachusetts State Colleges*, March 1968.

TABLE 26

ESTIMATED CAPITAL COSTS
PUBLIC INSTITUTIONS
BOSTON SMSA
(Millions of Current Dollars)

	Existing Institutions	*Proposed New Institutions*	*Total*
Community Colleges	57.5	89.1	146.6
State Colleges	90.0	82.0	172.0
University of Massachusetts, Boston	280.0		280.0
	427.5	171.1	598.0

Sources: Community Colleges: Donald E. Deyo, *Access to Quality Community College Opportunity, A Summary Report*, Massachusetts Board of Regional Community Colleges, 1967

State Colleges: *The Critical Decade to 1980 — Massachusetts State Colleges*, March 1968

(1) The present inquiry rests heavily on information gathered from several sources — other state agencies, individual public and private institutions, and the individual segments of public higher education. Admittedly, there are advantages in utilizing information which is readily available in terms of the cost and time involved in collection. Information provided by individual institutions does provide an insight into the future outlook of these institutions. However, there are obvious disadvantages, principally because information furnished by other agencies and institutions, public and private, reflect the separate purposes and intent of these agencies and institutions and in no way reflect an orderly and systematic definition of purposes and goals or a coordinated endeavor to achieve them.

Given the many influences which affect the decision making process of potential students — the availability of educational facilities, the academic programs being offered, the costs, student finances, and social and economic characteristics — and the apparent dominant role to be played by public institutions in future years, it would seem that formulation of a comprehensive public policy for higher education would require a method of predicting enrollments which was capable of measuring the effect of possible changes, in the significant variables, on the future demand for places and academic programs.

The existence of such a single source for enrollment forecasts would provide a common base for the long term planning activities of the individual segments of public higher education. Moreover,

insofar as a central enrollment forecast is viewed as a clear expression of the public sector's view of the potential demand for higher education by the private institutions, it would seem reasonable that such a forecast would be readily incorporated into the long range planning activities of private institutions as well.

A sophisticated system for enrollment forecasts would not only provide the Commonwealth with the means for developing reasonable estimates of future student demands for places and academic programs under various alternatives, it would also operate insofar as it provides a common frame of reference for the planning activities of all segments of public higher education and individual private institutions to foster communication and cooperation in the development of their respective long term educational programs.

It is recommended that a sophisticated system for statewide and regional enrollment predictions be developed as a necessary first step in establishing a comprehensive plan for public higher education.

(2) *Since the problem facing the public institution is not only one of numbers but also of adequate program development and diversification to meet the real and felt needs of students in the period ahead, it is recommended that the Board of Higher Education take immediate steps to set up an intersegmental (University, State Colleges, Community Colleges) council of executive officers and their representatives of the public higher educational institutions in the Boston Area both to improve lines of communication among institutions and with the Board of Higher Education and to encourage common planning on the institutional level for adequate diversification and complementation.*

(3) *It is further recommended that the Board of Higher Education invite representative private institutions in the Boston Area through the Association of Independent Colleges and Universities to form a similar planning council for the Boston Metropolitan Area to meet periodically with the council of public institutions for purposes of communication and planning and to serve as a continuing advisory committee to the Board of Higher Education in relation to its coordinating activities.*

(4) *It is strongly recommended that the Board of Higher Education immediately ascertain the current status of facilities planning at the public institutions and segments in the Boston Metropolitan Area including the relation of such facilities planning to programmatic planning, that the Board also, to the extent feasible, determine the facilities projection of private institutions within the area, and that in cooperation with the segments the Board of Higher Education develop an appropriately phased facilities Master Plan for all public institutions in the area aimed at helping to meet the essential needs for the period ahead as expeditiously as possible.*

(5) Recent years have witnessed a growing national concern over the future costs of higher education. In recent months much of the discussion has centered on the financial future of our nation's private institutions. Estimates of a multi-billion dollar gap between the revenue and expenditures of our nation's private institutions by the mid-seventies are now being voiced.

Private institutions in the Metropolitan Area appear to be equally concerned over their present and future financial condition. While the information obtained on the finances of area private institutions was much too limited and general in nature to allow for a concrete analysis and evaluation of their actual and future financial requirements, the finding that virtually all institutions expect their expenses to exceed their incomes for the forseeable future is of vital concern to all in the Commonwealth interested in preserving the strength and vitality of higher education.

The need to know the actual and future requirements of private institutions of higher education so that appropriate alternatives can be evaluated and developed, is of greater importance in the Commonwealth of Massachusetts than in other parts of our nation given the size and quality of educational opportunities available at private institutions and the traditionally large role private institutions have played in providing such opportunities to residents of the Commonwealth.

It is strongly recommended that the Board of Higher Education in conjunction with the Association of Independent Colleges and Universities immediately undertake a study of the financial problems of private institutions. It is further suggested that the Governor appoint a select committee with representation from both organizations and other interested parties to guide the study.

(6) Higher education in the Metropolitan Region has traditionally been identified as private education. Public higher education has only recently emerged as a major factor in the education of area students. Not surprisingly then, for the most part, the area's richest educational resources, libraries, staff, academic facilities, and program, are in private hands.

Given the rich educational resources already in private hands, and the enormous responsibility facing the public sector of higher education if it is to provide the quantitative and qualitative educational opportunities necessary to meet the needs and aspirations of future students, a system of inter-institutional cooperation which avoided unnecessary duplication of resources would be of benefit to the entire Commonwealth.

The educational requirements of society are becoming increasingly more complex, with the result that a wide range of educational programs of sufficient scope and quality at all levels of higher edu-

cation must be made available to meet the diverse interests and needs of students. At the same time, numerous programs of social improvements are competing for our human and financial resources.

Successful inter-institutional agreements between individual and groups of public institutions, private institutions, or between public and private institutions, would appear to be an effective method of organizing a system of higher education so as to insure the efficient allocation and full utilization of our limited resources. The kind of agreements finally established, be it the sharing of library facilities, other academic facilities, staff, etc., and the number and type of institutions included would be determined by the needs and aspirations of the students and institutions and a careful consideration of the costs and benefits associated with such agreements.

The Board of Higher Education should, insofar as practical, initiate and encourage the development of a system of inter-institutional cooperation in sharing resources, between and among individual and groups of public and private institutions. The joint council of institutions, suggested earlier, could serve as the vehicle for exploration of such cooperation.

(7) Admittedly, as assumed rise to 70 percent by 1980 in the relative number of area 18/21 year olds enrolled in some form of higher educational program reflects a belief that increases in the level of family incomes and/or public action which reduces the costs of higher education will make opportunities in higher education available to larger and larger numbers of potential students. However, substantially fewer students from the lower income communities now go on to some form of higher education and even fewer continue their education at a four year institution. Moreover, while more and more students from communities of all income levels have chosen to continue their education after high school, the increase in the rate of college going among lower income communities continues to lag behind that of middle and upper income groups.

Despite the very real and substantial gains made in providing increased opportunities in higher education to students from all levels of society, there is some justification for concluding that the gains have not been equally distributed.

There is an immediate need for a cooperative effort on the part of all levels of education involving the full participation of all branches of government and private industry, for the removal of all unreasonable impediments — financial, cultural, geographic, and other — which may limit the ability of students to achieve their educational goals.

TABLE 1

BOSTON SMSA INSTITUTIONS WHO FURNISHED INFORMATION FOR THE SURVEY

Name of School	*Student Characteristics*	*Policy*	*PROJECTIONS* *Enrollment*	*Student Charges*	*Revenue and Expenditures*
Public — Four Year					
Mass. College of Art	X	X			
State College at Boston	X	X			X
Framingham	X	X			
Salem	X	X	X	X	X
University of Mass. — Boston	X		X	X	
Public — Two Year					
Mass. Bay Community	X		X		
Newton Junior	X		X		
North Shore Community	X		X		
Quincy Junior					

TABLE 1 (continued)

Name of School	*Student Characteristics*	*Policy*	*PROJECTIONS* *Enrollment*	*Student Charges*	*Revenue and Expenditures*
Private — Four Year					
Andover Newton Theological	X	X			
Babson Institute	X	X	X	X	X
Bentley College	X	X			
Berklee School of Music					
Boston College	X	X	X	X	X
Boston Conservatory					
Boston University	X		X	X	X
Brandeis University			X	X	X
Calvin Coolidge and Portia Law					
Cardinal Cushing College	X	X	X	X	X
Curry College	X	X	X	X	X
Eastern Nazarene College		X	X	X	X
Emerson College					
Emmanuel College	X	X	X	X	X

TABLE 1 (continued)

Name of School	*Student Characteristics*	*Policy*	*PROJECTIONS* *Enrollment*	*Student Charges*	*Revenue and Expenditures*
Episcopal Theological School	X	X			
Gordon College	X	X	X	X	X
Harvard University	X	X	X		
Hebrew Teachers College			X	X	X
Hellenic College	X	X			
Lesley College					
Marist College and Seminary	X	X			
Mass. College of Optometry					
Mass. College of Pharmacy					
M. I. T.	X	X	X	X	X
Mount Alvernia College	X	X			
New England Conservatory					
Newton College of the Sacred Heart					
Northeastern University	X	X			
Oblate College and Seminary					
Queen of Apostles Seminary					

TABLE 1 (continued)

Name of School	*PROJECTIONS*				
	Student Characteristics	*Policy*	*Enrollment*	*Student Charges*	*Revenue and Expenditures*
Regis College					
St. Columban's Major Seminary					
St. John's Seminary	X	X			
St. Stephen's College					
Simmons College	X	X	X	X	X
Suffolk University	X	X	X	X	X
Tufts University	X	X	X	X	X
Jackson College	INCLUDED WITH TUFTS				
School of Museum of Fine Arts	X	X			
Radcliffe College	INCLUDED WITH HARVARD				
Wellesley College					
Wheelock College	X	X	X	X	X
Private — Two Year					
Cambridge Junior College					
Endicott Junior College					

TABLE 1 (continued)

Name of School	*Student Characteristics*	*Policy*	*PROJECTIONS* *Enrollment*	*Student Charges*	*Revenue and Expenditures*
Fisher Junior College	X	X	X	X	X
Franklin Institute	X	X			
Garland Junior College	X	X	X	X	X
Lasell Junior College					
Mount Ida Junior College	X	X	X	X	X
Forsyth School for Dental Hygienists	X	X			
Pine Manor Junior College	X	X			
Wentworth Institute	X	X	X	X	X

TABLE 27

ESTIMATED UNDERGRADUATE ENROLLMENT OF MASSACHUSETTS INSTITUTIONS OF HIGHER EDUCATION BY PLACE OF RESIDENCE

Institutions within Boston Metropolitan Area:

	1980		
	Public	*Private*	*Total*
Area Residents	56,200	26,900	83,100
Other Massachusetts	15,800	18,600	34,400
Total Massachusetts	72,000	43,500	117,500
Non-Massachusetts	*	67,500	67,500
	72,000	113,000	185,000
Institutions Outside Boston Metropolitan Area:			
Area	23,300	3,700	27,000
Other Massachusetts	77,200	9,400	86,600
Total Massachusetts	100,500	13,100	113,600
Non-Massachusetts	*	26,900	26,900
	100,500	40,000	140,500

*There are no Non-Massachusetts students shown under the public institutions because the number is not significant at the undergraduate level.

TABLE 28

ALL INSTITUTIONS OF HIGHER EDUCATION

1966				*1980*		
Public	*Private*	*Total*		*Public*	*Private*	*Total*
21,200	29,000	50,200	Metro Area Residents	79,500	30,600	110,100
26,400	26,200	52,600	Other Mass.	93,000	28,000	121,000
46,600	55,200	102,800	Total Mass.	172,500	58,600	231,100
	66,900	66,900	Non-Mass.		94,400	94,000
		169,700	Total All			326,500
46,600	122,100	169,700		172,500	153,000	326,500